

# Mahdi Hussein

## Data Scientist

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### Professional Summary

Dynamic Data Scientist with hands-on experience in machine learning, data analysis, and full-stack development of data-driven applications. Skilled in Python, SQL, TensorFlow, Streamlit, and data visualization, with a portfolio spanning sports analytics, bioinformatics, recommendation systems, and operational consulting. Adept at transforming complex datasets into actionable insights through custom algorithms, interactive dashboards, and automated workflows. Committed to continuous learning and applying AI to solve real-world problems across diverse domains.

### Education

#### American University of Beirut

August. 2024 – November. 2025

*Master of Science in Business Analytics*

- Worked as Graduate Assistant/ Research Assistant

#### Lebanese University

September. 2021 – June. 2024

*Bachelor of Science in Data Science*

### Professional Experience

#### Freelancing, On-Site/Remote

January. 2022 – Present

- Engineered interactive Streamlit applications to operationalize machine learning models for business clients, addressing the challenge of model accessibility and interpretability, resulting in improved decision-making and user engagement.
- Designed and implemented data dashboards to visualize insights for companies and media clients, solving the need for real-time, filterable analytics, which enhanced stakeholder reporting and data-driven strategy development.

#### Graduate Research Assistant, American University of Beirut, Beirut, Lebanon

August. 2024 – Present

- Automated student attendance tracking from Webex session data using a Python script that resolved name mismatches and redundancies, significantly reducing manual work and improving accuracy.
- Evaluated and provided detailed feedback on student course projects, enhancing learning outcomes and supporting academic development.
- Assisted with administrative tasks, contributing to the smooth operation of course logistics and internal coordination.
- Led a team of non-technical students to work collaboratively in scraping, preprocessing, ingesting, analyzing, and modelling data for a football data analytics project.
- Authored a review paper on AI applications in Inventory Management and initiated ongoing research on Inventory-Ops, contributing to academic discourse in supply chain technology

#### IT technician & Analyst Internship, Sahel General Hospital, Beirut, Lebanon

October. 2023 – December. 2023

- Installed and configured routers, switches, and PCs across new patient floors using CAT6 cabling with T568B termination, enabling efficient network connectivity and operational readiness.
- Automated data backup processes using Robocopy CLI, addressing data retention requirements and ensuring secure archiving on the hospital's archive server.
- Managed user access via Microsoft Server by assigning permissions, revoking credentials, and resetting passwords, managing onboarding and offboarding while maintaining data security.
- Administered bandwidth allocation using pfSense firewall to optimize Wi-Fi performance across hospital departments, reducing network congestion and enhancing connectivity.
- Developed an automated WhatsApp messaging system to notify patients of completed lab results, improving communication efficiency and patient satisfaction.
- Diagnosed and repaired PCs with hardware failures by replacing power supplies and upgrading RAM and CPU fans, restoring full functionality and extending device lifespan.

## Projects

### Football Formation Prediction Research

<https://football-formation-prediction.streamlit.app/>

- Engineered an AI-powered Streamlit application using LSTM networks and data mining to predict optimal football formations based on player performance, improving tactical decision-making for users through interactive visualizations.
- Created a custom "Chemistry" algorithm to quantify player synergy, enabling deeper analysis of team dynamics and lineup effectiveness.
- Built a complementary [web app for exploratory data analysis](#) of the 23/24 La Liga season, featuring an interactive dashboard that delivers Tableau-like insights for performance trends

### Football Data-Driven Scouting

Scraped and preprocessed football performance and financial data, ingested it into a PostgreSQL database hosted on Render, and applied a Kalman filter to evaluate player over- and under-performance, culminating in a Streamlit dashboard that visualized insights for strategic assessment and feasible talent hunting.

### Movie Recommendation System

<https://predict-movie.streamlit.app/>

- Built a personalized movie recommendation system using IMDb data from Kaggle, leveraging user-inputted preferences to generate suggestions, and deployed it on Streamlit with a live feedback mechanism to support future model fine-tuning and improved user relevance

### MTC Touch Consulting, Business Intelligence & Analytics (University Project)

- Analyzed tech support case data from MTC Touch to identify operational inefficiencies and customer pain points, resulting in proposed solutions to reduce support demand, boost capacity, and better align with the company's value proposition.

### Speedograph

<https://speedograph.netlify.app/login>

- Developed a responsive social media web app focused on car enthusiasts using ReactJS, Sanity, & TailwindCSS.

*Much more additional projects available on my portfolio website and GitHub (links in header).*

## Skills, Languages, & Others

### • Technical Skills:

**Programming Languages:** Python, R, SQL, Basic Web Dev(ReactJS, CSS, Django)

**Data Science & Analysis:** Data Mining, Data Preprocessing, Data Visualization, Machine Learning, Deep Learning, Neural Networks, LSTM Networks, Regression Analysis, Linear Algebra, Hypothesis Testing, Statistics.

**Tools & Technologies:** GitHub, Microsoft Excel, Tableau, Microsoft PowerPoint, Pivot Tables, NumPy, Pandas, Matplotlib, GGplot2, Seaborn, Streamlit, Tailwind CSS, Beautiful Soup, Django, SQLite3, VirtualBox, VMWare

**Operating Systems:** Windows, MacOS, Linux

• **Soft Skills:** Project Management, Critical Thinking, Teamwork, Adaptability, Presentation, Problem Solving

• **Languages:** Arabic (Native); English (Fluent); Deutsch (Still Learning)

• **Interests:** Data Analytics; AI; Sport Analytics; Inventory Management

## Certificates

<a href="#">Harvard CS50X</a>	2021
<a href="#">Johns Hopkins University R Programming</a>	2020
<a href="#">Google IT Support Professional Certificate</a>	2020
<a href="#">FreeCodeCamp Scientific Computing with Python</a>	2022

## Publications

Unlocking Data-Driven Inventory Management with Artificial Intelligence: Current and Future Practices (Authors: Mahdi Hussein, Dr. Ahmad El-Hajj)	2025
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